Varsha Chauhan

Curriculum Vitae

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Personal Profile

Name **Varsha Chauhan**
Date of birth **March 9, 1994**
Nationality **Indian**

Present Designation

Mar. 2024 - till date **Assistant Professor**, Department of Mathematics, Maiteryi College of Delhi University, Bapu Dham, Chanakyapuri, New Delhi - 110020, India.

Post Doctoral Experiences

Jul. 2023 - Mar. 2024 **Post Doctoral Fellow**, Department of Mathematics, Indraprastha Institute of Information Technology Delhi (IIIT-Delhi), New Delhi - 110020, India.

Education

Dec. 2016 - Jun. 2021 **Doctor of Philosophy (Ph.D.)**, Department of Mathematics, Indraprastha Institute of Information Technology Delhi (IIIT-Delhi), New Delhi - 110020, India.

- **Title of the Ph.D. Dissertation:** *Multi-twisted Codes Over Finite Fields And Their Generalizations*
- **Ph.D. Advisor:** *Prof. Anuradha Sharma*
- **Ph.D. Thesis Examiner:** *Prof. Patrick Solé (Aix-Marseille University, France), Prof. Simon Litsyn (Tel Aviv University, Israel) and Prof. Edgar Martínez-Moro (University Of Valladolid, Spain)*
- **Date of Dissertation Defense:** *February 1, 2021*
- **Date of Degree Awarded:** *June 21, 2021*
- **CGPA: 9.50**

2014 - 2016 **Master of Science (M.Sc.) in Mathematics**, St. Stephen's College, Delhi University, Delhi - 110007, India.

- **Percentage Marks: 90.31**

2011 - 2014 **Bachelor of Science (B.Sc.) with Honours in Mathematics**, Indraprastha College for Women, Delhi University, Delhi - 110054, India.

- **Percentage Marks: 93.4**

2011 **Senior Secondary Examination (CBSE Board)**, Motiram Memorial Girls Senior Secondary School, Dilshad Garden, Delhi - 110095.
- **Percentage Marks: 86.16**

2009 **Matriculation (CBSE Board)**, Delhi International School, Johripur, Delhi - 110094.
- **Percentage Marks: 86**

Research Interests

Algebraic Coding Theory, Algebra and Number Theory

Publications in Journals

1. **V. Chauhan** and A. Sharma, Some new constructions of optimal and almost optimal locally repairable codes, *Finite Fields Appl.* 101, pp. 1-40, 2025.
2. **V. Chauhan** and A. Sharma, A generalization of multi-twisted codes over finite fields, their Galois duals and Type II codes, *J. Appl. Math. Comput.*, https://doi.org/10.1007/s12190-021-01574-1, 2022.
3. **V. Chauhan**, A. Sharma, S. Sharma and M. Yadav.: Hamming weight distributions of multi-twisted codes over finite fields, *Des. Codes Cryptogr.*, https://doi.org/10.1007/s10623-021-00889-1, 2021.
4. **V. Chauhan** and A. Sharma, Hamming weight enumerators of multi-twisted codes with at most two non-zero constituents, *Finite Fields Appl.* 76, pp. 1-50, 2021.
5. A. Sharma and **V. Chauhan**, Skew multi-twisted codes over finite fields and their Galois duals, *Finite Fields Appl.* 59, pp. 297-334, 2019.
6. A. Sharma, **V. Chauhan** and H. Singh, Multi-twisted codes over finite fields and their dual codes, *Finite Fields Appl.* 51, pp. 270-297, 2018.

Fellowships and Awards

2021 **Awarded Doctoral Dissertation Award**.
- Recognition of the excellent work in Doctoral Dissertation titled "Multi-twisted Codes Over Finite Fields And Their Generalizations" among the students of all the Doctoral of Philosphy Program graduated in the year 2021.

2017 **Qualified the JRF-NET Examination jointly conducted by the Council of Scientific and Industrial Research (CSIR) and University Grants Commission (UGC)**.
- Eligibility for Junior Research Fellowship (JRF) and Lectureship by the Council of Scientific and Industrial Research (CSIR), Government of India

2016 **Qualified the JRF-NET Examination jointly conducted by the Council of Scientific and Industrial Research (CSIR) and University Grants Commission (UGC)**.
- Eligibility for Junior Research Fellowship (JRF) and Lectureship by the Council of Scientific and Industrial Research (CSIR), Government of India

2016 **Received Maharaja Lakshman Sen Memorial prize in the academic year 2015-2016**.
- For being the best student in M.Sc. (Mathematics)

2014 **Awarded Shri P.M. Mathai and Smt. Sosamma Mathai Memorial Prize, 2013-2014**.
- For securing the highest marks in B.Sc. (H) Mathematics
- Obtained 100 % Marks in the 5th semester

Past Teaching Experience

1. **Worked as an Assistant Professor on Guest basis from January 2023 to December 2023, at NCWEB Center**.
   - Taught Coding Theory and Frames and Wavelets (PG courses).

2. **Served as a Teaching Assistant (TA) for the course titled "Abstract Algebra I" at IIIT-Delhi during Winter 2017**.
   - Created tutorial sheets for the course, evaluated answer sheets and conducted problem solving sessionss.

3. **Served as a Teaching Assistant (TA) in the course titled "Number Theory" at IIIT-Delhi during Monsoon 2017** .
   - Created tutorial sheets for the course, evaluated answer sheets and conducted problem solving sessions.

Participation in Conferences/Workshops

Jan. 2025 Successfully completed a one-week online national **"Faculty Development Program"** organized by Maitreyi College, University of Delhi, in collaboration with UGC-MMTTC/GAD-MMTTC, SGTB Khalsa College, University of Delhi, during January 16-22, 2025.

Sep. 2024 Participated in the **"Faculty Training Program"** on Organizing Data using Google Tools, organized by Department of Computer Science, Maitreyi College under the aegis of IQAC, during September 25-26, 2024.

Sep. 2024 Participated in the **"EQUINOX 2024: 4th Annual International Conference"** on Systems of Knowledge in India: Moving towards self-reliance, organized by the Centre for Research, Maitreyi College, University of Delhi, India, during September 4-6, 2024.

Aug. 2024 Successfully mentored four students in two-month project entitled "Integrating Ancient Indian Mathematical Techniques into Modern Computer Science Algorithms" under the **"Summer Internship Programme (2023-2024)"**, organised by Center for Research, Maitreyi College, University of Delhi, India, during June 1 - August 1, 2024.

Jul. 2024 Participated and obtained an"A" grade in the 24 days online **"Faculty Induction Programme (FIP)"** organized by UGC-MMTTC, Himachal Pradesh University, Shimla, India, during July 1-24, 2024.

Jun. 2024 Participated in the Training-cum-Workshop on **"Internet of Things Applications and Innovations: Unlocking the Potential of IoT"** held at Maitreyi College, University of Delhi, on June 30, 2024.

May 2024 Participated in **"NEP 2020 Orientation and Sensitization Programme"** under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC), organized by Centre for Professional Development in Higher Education (UGC-MMTTC), University of Delhi, India, during May 20-30, 2024.

Apr. 2024 Participated in the **"Research Methodology Workshop "**, held at Maitreyi College, University of Delhi, on April 24, 2024.

Aug. 2018 Delivered a talk entited “Multi-twisted codes over finite fields and their dual codes" in the **“International Congress of Mathematicians (ICM) 2018 ”** , held at Rio de Janeiro, Brazil during August 1-9, 2018.

Dec. 2017 Participated in the **“Annual Instruction School (AIS) on Gröbner bases and their Applications”** , held at IIIT-Delhi, India, during December 11-23, 2017.

Languages

English Fluent

Hindi Fluent

References

1. **Prof. Anuradha Sharma**,
   Professor, Department of Mathematics,
   Indraprastha Institute of Information Technology Delhi (IIIT-Delhi),
   New Delhi, India - 110020
   Homepage: *https://www.iiitd.ac.in/anuradha*
   E-Mail: anuradha@iiitd.ac.in
2. **Prof. Anuj Bhisnoi**,
   Assistant Professor,
   Delhi University ,
   New Delhi, India - 110007
   E-Mail: abishnoi@maths.du.ac.in
3. **Prof. Edgar Martínez-Moro**,
   Associate Professor,
   University Of Valladolid, Castlilla, Spain
   Homepage: *http://www.singacom.uva.es/ edgar/*
   E-Mail: edgar@maf.uva.es
4. **Prof. Shanta Laishram**,
   Professor,
   Stat Math Unit, Indian Statistical Institute (ISID) ,
   New Delhi, India - 110016
   Homepage: *https://www.isid.ac.in/ shanta*
   E-Mail: shantalaishram@gmail.com